

densely and regularly punctured, violet-brown in colour; the rest of the surface is ashy-white, sparingly punctured; each elytron has two or three incomplete raised lines, along each of which is a row of very small linear pencils of dark-coloured hair. Body beneath and legs black, clothed with ashy pile.

This species I found at Caripí, near Pará. It is closely allied to the preceding, and is probably a variety of it; but its much smaller size, different coloration and punctation, give it so distinct a character that, in the absence of connecting links, I am obliged to treat it as a separate species.

The present genus terminates the succession of generic forms which lead from the *Acanthoderes* type to that of *Acanthocinus* and *Leiopus*. I shall now return to a series of forms which appear to have branched off from *Acanthoderes*, especially from those species resembling *Pteridotelus* in general structure.

[To be continued.]

XV.—*On new Species of Snakes in the Collection of the British Museum.* By Dr. ALBERT GÜNTHER.

[Concluded from p. 59.]

NATRIX.

Physiognomy entirely that of *Tropidonotus*. Body stout, cylindrical; belly rounded; tail rather long. Temple shields of moderate size. Scales smooth, in 19 rows, without apical groove; anal entire, subcaudals two-rowed. Teeth of equal length, not grooved, of moderate length.

*Natrix lavissima.* Pl. IX. fig. 4.

We have employed for this new genus an old name well adapted for the snakes of the family of Natricidæ, but entirely abandoned by later herpetologists, and superseded by that of *Tropidonotus*. The present species has so completely the physiognomy of *Tropidonotus*, that we may be justified in giving a very short description. The anterior frontals are small, triangular, somewhat pointed anteriorly; two nasals, nostril between; a large loreal; one anterior and two posterior oculars; six rhombic temporals, the anterior in contact with the lower ocular only; eight upper labials, the eye over the fourth, the fifth slightly entering the orbit. Scales quite smooth, rhombic, in 19 rows. Ventrals 175; anal 1; subcaudals 76. Upper and lateral parts uniform blackish ash; ground-colour of the abdomen yellowish; a blackish band commences at the throat, and, gradually becoming broader and more irregular, covers nearly entirely the

ventral and subcaudal plates, leaving only their narrow outer edges yellowish. Length of the head 1 inch, of the trunk 24, of the tail 9.

This snake is probably from the East Indies.

*Spilotes Salvini.* Pl. IX. fig. 5.

Scales in 19 rows, slightly keeled; one anterior and two posterior oculars; eight upper labials, the fourth and fifth of which enter the orbit, the sixth very small, triangular, not quite so large as the fourth, the seventh the largest; one anterior and two posterior temporals, the anterior not much larger than, and in contact with, the oculars; the lower posterior temporal is in contact with the seventh and eighth labials, but not with the front temporal.

Head rather thick; neck and tail slender; body compressed. Rostral rounded, rather small; anterior frontals half as large as the posterior; vertical five-sided, with the posterior angle slightly obtuse, not twice as long as broad; occipitals obtusely rounded behind, as long as the vertical; the anterior ocular just reaching to the corner of the vertical; loreal square. Scales on the anterior part of the body much imbricate, in very oblique rows, those of the vertebral line of the anterior part of the body larger than the rest; each scale with two grooves at the apex. Ventral plates 215; anal entire; subcaudals 130. All the maxillary teeth of equal length. Ground-colour yellow, with broad black cross-bands, which are more regular and distinct from the ground-colour on the posterior half of the body than on the anterior, where they are more confluent, and many scales within the bands remain entirely or partly yellow. Each scale of the yellow interspaces has a black tip. Each shield of the head with black margins; occipitals black, with some symmetrical small yellow spots; suture of the eighth and seventh upper labials black. Lower parts yellow, many of the plates with black margins.

This species was discovered by O. Salvin, Esq., at Ezabal (Guatemala).

*Zamenis gracilis.*

Habit slender. Yellowish-olive, with a single series of large brown round spots edged with black, along the anterior half of the body; the spots become indistinct posteriorly, and only the black edges continue to form cross-bars on the back, being merely spots on the tail; head with two brown black-edged cross-bands, the anterior between the eyes, the posterior on the crown of the head, forming an acute angle on the vertical; the brown spot on the neck is produced forward within the limbs of the band across the crown; an irregular series of black spots on

each side of the belly, which is uniform yellow. Scales smooth, in 21 series. Upper labials 9, the fifth and sixth coming into the orbit; two anterior and two posterior oculars; occipitals rounded posteriorly, without larger scale behind.

Head rather narrow; body and tail elongate. Rostral shield moderate; the upper anterior ocular is in contact with the vertical; the lower is small, apparently a separate portion of the fourth upper labial; the sixth labial forms the lower third of the posterior margin of the orbit. Temporal shields small, scale-like, in four transverse series; the front series is composed of two shields which are in contact with the oculars. The posterior pair of chin-shields are separated from each other by intermediate scales. Two very indistinct grooves at the apex of the scales (invisible in numerous scales). Ventral shields 219; anal bifid; subcaudals 120. Length of head 7 lines, of trunk 17 inches, of tail 8 inches.

I have mentioned this species as var. B. of *Zamenis ventrimaculatus* (Colubr. Sn. p. 106), expressing my doubts as to its being distinct from it. Having found other specimens in the museum at Fort Pitt, said to have come from Western India (Kurrachee), I can no longer hesitate in considering them as a separate species. There are five specimens in the British Museum.

*Psammophis taniata.*

Allied to *Ps. sibilans*, but having only one anterior temporal in contact with the oculars. Anterior ocular not reaching to the vertical. Yellowish olive, with four green longitudinal bands edged with black; labial shields without any markings.

Specimens of this snake have been known to me for several years; but I hesitated to consider it as a distinct species until lately, when I had an opportunity of examining several others in the Fort Pitt Museum: they quite agree with those in the British Museum, and also come from India, very probably from the western parts.

*Phragmitophis tricolor.*

*Herpetodryas tricolor*, Schleg. = *Cyclophis tricolor*, Gthr., differs so much in its physiognomy from the other species of either of the genera to which it has been referred, that it will be better to establish for it a separate genus, for which I propose the name of *Phragmitophis*. The technical character by which it may be distinguished from *Cyclophis* is—loreal none, united with the posterior frontal.

*Cyclophis*, *Phragmitophis*, *Dryocalamus*, and *Hydrophobus* form a separate group in the family of Dryadidæ, which approaches the Calamaridæ and Coronellidæ, either by having some shields

of the head united, or by the body being moderately elongate, surrounded by not numerous series of scales. The last of the genera mentioned appears to be undescribed.

#### HYDROPHOBUS.

Head slightly depressed, broader than the neck; body and tail moderately slender, compressed, the ventral shields being angularly bent on the sides; loreal distinct, two anterior and two posterior oculars; one nasal, pierced by the nostril. Scales in thirteen rows, smooth, short, rounded, with a single groove at the apex. Teeth equal in length, smooth.

#### *Hydrophobus semifasciatus*. Pl. IX. fig. 6.

Shields of the upper surface of head regular; anterior frontals more than half the size of the posterior; vertical five-sided; occipitals rounded behind, much longer than vertical; rostral broader than high; loreal square, the upper ocular does not reach to the vertical. Seven upper labials, the third and fourth entering the orbit. Six small temporals, that on the side of the hind portion of the occipital being elongate, twice the size of the others; two are in contact with the oculars. Two pairs of chin-shields, the anterior being thrice the size of the posterior. The chin-shields are in contact with five pairs of lower labials. Back of the trunk broad, rounded. Ventral shields 232, anal bifid, subcaudals 84.

The ground-colour is pure white; back of trunk and tail crossed by fifty dark-brown bands, which are much broader than the interspaces between them, and do not extend downwards to the ventral shields. Upper part of the head brown to the posterior half of the occipital.

Length of head 3 lines, of trunk 75 lines, of tail 27 lines.

A single specimen (locality unknown) has been presented by T. C. Eyton, Esq.

#### *Philodryas Reinhardtii*.

Prof. Reinhardt (Vidensk. Medd. naturh. Foren. Kjöbenh. 1860, p. 224) refers *Philodryas viridissimus* to those snakes the scales of which are provided with two grooves at the apex, whilst Dr. Wucherer of Bahia describes those scales as one-grooved (Proc. Zool. Soc. 1861, Dec. 10.). I was induced by these contradictory statements to examine fifteen specimens of this snake, and found that those from Guiana had two-grooved scales and those from Brazil one-grooved. This led to a closer examination and search for other accompanying characters, whereby I was fully convinced that two species are confounded under the name *Ph. viridissimus*. The northern species (Pl. IX. fig. 8) has



the body much more compressed, and the ventral shields distinctly keeled; the scales on the middle of the trunk are rather short, rounded behind, two-grooved; the rostral shield is more depressed, considerably broader than high; six pairs of lower labial shields are in contact with the chin-shields. Ventral shields 228, subcaudals 128. This is the true *Philodryas* (*Coluber*) *viridissimus* of Linné, who states Surinam to be its native country, and 217 ventral and 122 subcaudal shields.

The southern species (Pl. IX. fig. 7) has the body more rounded, and no trace of a keel on the ventrals; the scales on the middle of the trunk are lanceolate, one-grooved; the rostral shield (in fact, the whole snout) is more elevated, as high as broad; five pairs of lower labial shields are in contact with the chin-shields. Ventral shields 191-196, subcaudals 108-110. All the five specimens of this species which I have examined are from Brazil (two from Bahia); and I name it after Prof. J. Reinhardt in acknowledgment of his having been the first who introduced this important character into science. Prof. Reinhardt enumerates the isolated instances in which the dots have been observed by herpetologists (p. 220); *Dendrophis punctulata* must be added to them, the grooves having been observed by Dr. Gray, who named this species after the "black dots" visible at the tip of each scale (King's 'Australia' ii. App. p. 432). The grooves in this species are more distinct than in any other I have seen, being quite of a black colour.

*Dromicus mentalis*. Pl. IX. fig. 9.

Scales smooth, in nineteen rows, with two distinct grooves at the apex. Upper labials seven, the third and fourth entering the orbit; loreal square. Only five pairs of lower labials are in contact with the chin-shields. Five scale-like temporals.

Rostral shield oblique, much broader than high, just reaching the upper surface of the crown. Anterior frontals half the size of the posterior. Vertical oblong, with the lateral edges nearly parallel, much shorter than the occipitals, which are slightly rounded behind. The single anterior ocular extends to the upper surface of the crown; two posterior oculars. The anterior temporal shield, which is not much larger than the posterior ones, is in contact with the lower ocular, and very slightly with the upper. Ventral shields 189; anal bifid; subcaudals 112.

Ground-colour brownish olive; a black band from the eye running backwards and joining a black horseshoe-like band on the nape of the neck. A series of large black rhombic spots on the anterior part of the trunk, partly confluent into a zigzag band; they become less distinct posteriorly, the hind part of the trunk and the tail being nearly uniform blackish brown, with irregular

lighter spots. Lower parts of the head and each of the 50 anterior ventral shields with one, two, or three triangular black spots; the posterior ventrals and the subcaudals being uniform brown.

This is a West Indian Snake; but from what island, we cannot say. It is readily distinguished by the shields of the head. *D. antillensis* and *D. rufodorsatus* have six pairs of lower labials in contact with the chin-shields.

#### RHAMNOPHIS (Dendrophidæ).

Scales *smooth*, with a single groove at the apex, those of the vertebral and outer series very large, the others very narrow; ventral shields slightly keeled. Eyes very large. Posterior maxillary teeth very large and compressed.

#### *Rhamnophis æthiopissa*. Plate X.

Scales in 17 rows, those of the vertebral series elongate, irregularly six-sided. Head thick, snout as long as the eye; shields of the head regular; posterior frontals not much larger than the anterior; vertical large, broad anteriorly, tapering behind; occipitals rounded, not much longer than vertical. Nasal divided, loreal oblong; anterior ocular high, in contact with the vertical; two narrow posterior oculars; eight upper labials, the fourth and fifth entering the orbit; one large temporal, in contact with both oculars; two scales, larger than the others on the neck, behind the temporal; three pairs of chin-shields, the middle twice the size of the anterior, the hind pair divergent. Ventrals 175; anal bifid; subcaudals 152.

Bluish green, iridescent, each scale with a black margin; the green passes into yellow on the tail, and forms there narrow lines along the series of scales. Two blackish spots on the occiput, and a black line through the eye.

Length of head nine lines, of trunk 24 inches, of tail 12 inches. West Africa.

#### *Diemansia cucullata*.

Scales in thirteen rows; upper labials six, the third and fourth forming the lower edge of the orbit, the second labial in contact with the posterior frontal; rostral broad, low, very obtuse superiorly; shields of the head regular, all more or less rounded posteriorly and slightly imbricate; vertical twice as long as broad; one anterior and two posterior oculars; one temporal is in contact with the lower ocular, four or five scale-like temporals behind. 176 ventrals, 1 bifid anal, 47 subcaudals.

Brownish black, belly marbled with a lighter tint; the snout and the lateral parts of the head are greyish, punctulated with black;

the crown of the head is black, and is united with the back by a narrow band of the same colour, running along the median line of the neck; neck with an oblong light-greyish spot on each side of the band. Lower jaws brown, marbled with a lighter tint.

The single specimen sent by Mr. Krefft from the neighbourhood of Sydney is not in a good condition, half-dried, and apparently immature; it is nine inches long.

*Diemansia torquata.* Pl. IX. fig. 10.

Scales in fifteen rows, smooth. Brownish olive, each scale with a short white line at the basal portion of its outer margin; skin between the scales black; a brownish-black streak, edged with yellow, across the rostral shield and the loreal region, extending to the orbit. Posterior oculars yellow; a yellow streak edged with black from the eye to the angle of the mouth, continued into another similar band across the neck; another yellowish cross-band at some distance behind the former; the space between the two cross-bands dark brown, the whole forming a collar. Chin yellowish, marbled with grey; belly shining grey, a blackish band along the middle of the anterior half of the belly; tail reddish olive posteriorly.

Head flat; loreal replaced by the conjunction of four shields, as in the typical species; six upper labials, the third and fourth entering the orbit; two anterior temporals, the upper in contact with the lower postocular, the lower intercalated between the fifth and sixth labials. Scales without groove at the apex. Ventral plates 206; anal bifid; subcaudals 84.

Length of the head 7 lines, of the trunk 16 inches, of the tail 6 inches.

*Habitat.*—Percy Islands.

*Hoplocephalus temporalis.* Pl. IX. fig. 11.

Scales in nineteen rows; six upper labials, the second of which is pointed above, the third truncated; temporal shields small, numerous, in three series; two temporals are in contact with the post-orbitals, and a third below is intercalated between the two posterior labials.

*Description.*—Body stout, thick; tail rather short; head short and broad, distinct from neck; eye small, pupil subelliptical. Rostral shield triangular, nearly as high as broad, rounded above; anterior frontals small, broader than long, posterior frontals of moderate size, rounded posteriorly; vertical five-sided, much longer than broad, with parallel outer edges, and a pointed posterior angle; occipitals of moderate size; two posterior oculars, one anterior just reaching to the upper surface of the head; the postfrontal, nasal, ante-orbital and second upper labial meet at

a point and replace the loreal. Six upper labials; the first is lower than the following, the third and fourth enter the orbit. The chief character by which the species may be readily distinguished is the increased number of temporal shields, as stated above. Scales round the neck small. Chin-shields of nearly equal size; several scales between the hinder chin-shields and the first ventral; 129-132 ventrals, 1 anal, 35-37 subcaudals; a series of four teeth behind the grooved front tooth. Uniform olive-brown or chestnut-brown above, uniform yellowish below.

The five specimens in the British Museum are from South Australia (locality unknown); the longest (adult female) is 20 inches, the head being  $\frac{3}{4}$  inch and the tail  $2\frac{3}{4}$  inches long. It feeds on frogs.

*Hoplocephalus nigrescens.* Pl. IX. fig. 12.

Scales in fifteen rows; six upper labials, the second of which is pointed above, the third truncated. Uniform blackish olive above; ventral shields whitish, blackish on the sides; the entire head, superiorly and inferiorly, of the same colour as the back.

*Description.*—Body rather elongate, rounded; tail somewhat short, not distinct from trunk; head oblong, depressed, hardly distinct from neck; eye small, pupil subelliptical. Rostral shield very broad and low, and very obtuse superiorly; anterior frontals moderate, broader than long, rounded in front; posterior frontals rather large, five-sided, each with two hinder edges forming together a right angle; vertical six-sided, longer than broad, with parallel outer edges, an obtuse angle in front, and a pointed one behind; occipitals oblong, obtusely rounded behind; superciliary moderate; two posterior oculars, one anterior just reaching to the upper surface of the head; the postfrontal, nasal, ante-orbital and second upper labial meet at a point and replace the loreal; six upper labials: the first is very low, situated below the nasal, the third and fourth enter the orbit; front series of temporals formed by two shields, one of which is in contact with the postorbitals. Chin-shields of nearly equal size, several scales between the hinder chin-shields and the first ventral, 173 ventrals, 1 anal, 37 subcaudals; the median line of the upper part of the tail is occupied by a series of large hexagonal scales; a series of small teeth behind the grooved front-tooth.

Length of the cleft of mouth 5 lines, of the tail 25 lines; total length  $15\frac{1}{2}$  inches. This species was discovered by Mr. G. Krefft, in the environs of Sydney.

*Callophis nigrescens.*

Upper parts dark-blackish ash, lower uniform whitish; head with symmetrical black markings, one of which descends from



the occipital to the angle of the mouth (as in *C. trimaculatus*); a black horseshoe-like collar, with the convexity directed forward; a black line runs from the collar to the tip of the tail, along the vertebral series of scales; a series of roundish black spots, indistinctly edged with white, along each side of the anterior part of the trunk. Tail coloured like the body, without black rings. Upper labials seven.

Thirty inches long. Two specimens, from the Fort Pitt Collection, are in the British Museum. They are said to be from British India, locality unknown.

P.S.—*Elaeomorphus mexicanus* and *Hydrophobus semifuscatus* (Pl. IX. figs. 1 & 6) are represented twice their natural size.

Add to the first list *Tretanorhinus variabilis*, from Cuba, which has lately been received through the kindness of Prof. Peters. This raises the total number of species in the British Museum to 612, which are represented by more than 4100 specimens. According to a statement of Prof. A. Duméril (Arch. Mus. ix. 1857), the Paris Collection contains 523 species.

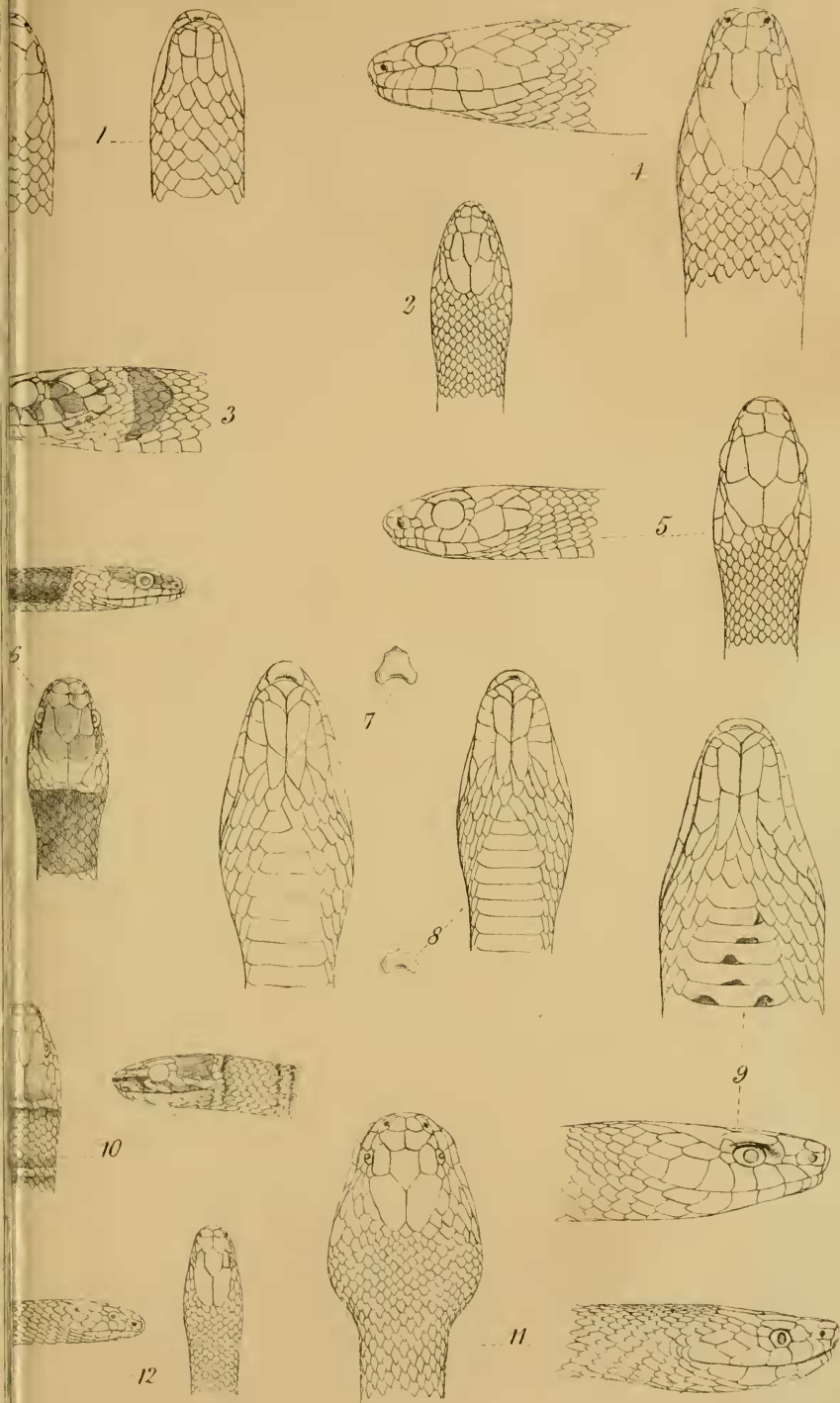
XVI.—*An Account of two remarkable Crustacea of the Order Cladocera.* By W. LILLJEBORG\*.

[Plate VIII.]

THE two *Cladocera* which I am about to describe are of so remarkable a structure, that I have not thought myself justified in delaying their description, as I had previously intended, until I had an opportunity of issuing a continuation of my treatise on the *Cladocera*, *Ostracoda*, and *Copepoda*. Both are found in our fresh waters, and are widely disseminated. Baron G. C. Cederström, to whom, in this branch of knowledge, we are so greatly indebted, first drew my attention to the one species, and also transmitted to me specimens of the other. The former differs so widely from all *Cladocera* hitherto known as to form a separate family; but the latter belongs to the Polyphemidæ, although in some respects it strikingly deviates from the other members of that family.

That the former has not previously been noticed may be ascribed to the circumstance that it is so transparent as to be seen only with difficulty, although it is larger than any other *Cladocera*,—on which account it may well be contained in a glass of water without being seen, even with the aid of a lens. The other seems to be very rare, and probably has its abode in deep water.

\* From 'Öfversigt af Kong. Vet. Akad. Förhandl.' Read May 16, 1860.





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*Rhamnophis aethiopissa*: Gthr.

WWest imp.